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EDUCATION

- Residency* **Anatomic Pathology Training Program, Laboratory of Pathology, National Cancer Institute, National Institutes of Health**
September 1996 – June 2000
- Medical* **The University of Texas Health Science Center, Houston Medical School**
Doctor of Medicine, July 1996
- Graduate* **The University of Texas Health Science Center, Houston Graduate School of Biomedical Sciences and The University of Texas M. D. Anderson Cancer Center**
Doctor of Philosophy, Genetics, August 1995
Dissertation: “Transcriptional Regulation and Functional Analysis of the Wilms’ Tumor Gene WT1.”
- Undergraduate* **The Johns Hopkins University**
Bachelor of Arts, May 1988
Major: Philosophy (Completed requirements for Biology)

ACADEMIC AND PROFESSIONAL EXPERIENCE

Associate Research Physician, Laboratory of Pathology, Center for Cancer Research, National Cancer Institute, National Institutes of Health, 2000-Present:

US-PHS Commissioned Officer
Called to duty August 31, 1996
Captain (O-6)

Head, Experimental Pathology Laboratory, 2014-present
Laboratory Director, CLIA Molecular Diagnostics Laboratory, Frederick National Laboratory for Cancer Research 2022-present

Previous:

Head, Tissue Array Research Program, 2000-2014
Head, Applied Molecular Pathology Laboratory 2009-2014

Adjunct Research Instructor, The University of Texas Health Science Center, Houston Graduate School of Biomedical Sciences, 1995-1996

Predoctoral Fellow, NIH Training Grant in Molecular Genetics of Cancer, The University of Texas M.D. Anderson Cancer Center, 1993-1995

M.D./Ph.D. Predoctoral Fellow, Department of Biochemistry and Molecular Biology, The University of Texas M.D. Anderson Cancer Center, 1990-1996

Laboratory Assistant, Department of Pathology, The University of Texas Medical School, Houston, 1989-1990

Summer Research Fellow, Department of Pathology, The University of Texas Medical School, Houston, 1989

LICENSE & CERTIFICATION

Maryland Medical License, D0052887, expiration September 2024

Diplomat, American Board of Pathology (Anatomic Pathology), July 2003 (no expiration)

Investigator, Cancer Therapy Evaluation Program, National Cancer Institute, IVR-37978, expiration February 2024

PUBLICATIONS

1. Li N, Quan A, Li D, Pan J, Ren H, Hoeltzel G, de Val N, Ashworth D, Ni W, Zhou J, Mackay S, **Hewitt SM**, Cachau R, Ho M. The IgG4 hinge with CD28 transmembrane domain improves VHH-based CAR T cells targeting a membrane-distal epitope of GPC1 in pancreatic cancer. *Nat Commun.* 2023 Apr 8;14(1):1986. doi: 10.1038/s41467-023-37616-4. PMID: 37031249
2. Sen HN, Vannella KM, Wang Y, Chung JY, Kodati S, Ramelli SC, Lee JW, Perez P, Stein SR, Grazioli A, Dickey JM, Ylaya K, Singh M, Yinda KC, Platt A, Ramos-Benitez MJ, Zerbe C, Munster VJ, de Wit E, Warner BM, Herr DL, Rabin J, Saharia KK; NIH COVID-19 Autopsy Consortium; Kleiner DE, **Hewitt SM**, Chan CC, Chertow DS. Histopathology and SARS-CoV-2 Cellular Localization in Eye Tissues of COVID-19 Autopsies. *Am J Pathol.* 2023 Nov;193(11):1809-1816. doi: 10.1016/j.ajpath.2023.02.016. Epub 2023 Mar 22. PMID: 36963628
3. Saharia KK, Ramelli SC, Stein SR, Roder AE, Kreitman A, Banakis S, Chung JY, Burbelo PD, Singh M, Reed RM, Patel V, Rabin J, Krupnick AS, Cohen JI, de Wit E, Ghedin E, **Hewitt SM**, Vannella KM, Chertow DS, Grazioli A. Successful lung transplantation using an allograft from a COVID-19-recovered donor: a potential role for

- subgenomic RNA to guide organ utilization. *Am J Transplant*. 2023 Jan;23(1):101-107. doi: 10.1016/j.ajt.2022.09.001. Epub 2023 Jan 11. PMID: 36695611
4. Kong M, D'Atri D, Bilotta MT, Johnson B, Updegrove TB, Gallardo DL, Machinandiarena F, Wu IL, Constantino MA, **Hewitt SM**, Tanner K, Fitzgerald DJ, Ramamurthi KS. Cell-specific cargo delivery using synthetic bacterial spores. *Cell Rep*. 2023 Jan 31;42(1):111955. doi: 10.1016/j.celrep.2022.111955. Epub 2023 Jan 4. PMID: 36640333
 5. Kim K, Ylaya K, Perry C, Lee MY, Kim JW, Chung JY, **Hewitt SM**. Quality Assessment of Proteins and RNA Following Storage in Archival Formalin-Fixed Paraffin-Embedded Human Breast Cancer Tissue Microarray Sections. *Biopreserv Biobank*. 2023 Oct;21(5):493-503. doi: 10.1089/bio.2022.0090. Epub 2022 Oct 19. PMID: 36264172
 6. Maestri E, Kedei N, Khatib S, Forgues M, Ylaya K, **Hewitt SM**, Wang L, Chaisaingmongkol J, Ruchirawat M, Ma L, Wang XW. Spatial proximity of Tumor-Immune interactions predicts patient outcome in hepatocellular carcinoma. *Hepatology*. 2023 Sep 19;. doi: 10.1097/HEP.0000000000000600. [Epub ahead of print] PubMed PMID: 37725716.
 7. Thagaard J, Broeckx G, Page DB, Jahangir CA, Verbandt S, Kos Z, Gupta R, Khirroya R, Abduljabbar K, Acosta Haab G, Acs B, Akturk G, Almeida JS, Alvarado-Cabrero I, Amgad M, Azmoudeh-Ardalan F, Badve S, Baharun NB, Balslev E, Bellolio ER, Bheemaraju V, Blenman KR, Botinelly Mendonça Fujimoto L, Bouchmaa N, Burgues O, Chardas A, Chon U Cheang M, Ciompi F, Cooper LA, Coosemans A, Corredor G, Dahl AB, Dantas Portela FL, Deman F, Demaria S, Doré Hansen J, Dudgeon SN, Ebstrup T, Elghazawy M, Fernandez-Martín C, Fox SB, Gallagher WM, Giltnane JM, Gnjatic S, Gonzalez-Ericsson PI, Grigoriadis A, Halama N, Hanna MG, Harbhajanka A, Hart SN, Hartman J, Hauberg S, **Hewitt S**, Hida AI, Horlings HM, Husain Z, Hytopoulos E, Irshad S, Janssen EA, Kahila M, Kataoka TR, Kawaguchi K, Kharidehal D, Khrantsov AI, Kiraz U, Kirtani P, Kodach LL, Korski K, Kovács A, Laenholm AV, Lang-Schwarz C, Larsimont D, Lennerz JK, Lrousseau M, Li X, Ly A, Madabhushi A, Maley SK, Manur Narasimhamurthy V, Marks DK, McDonald ES, Mehrotra R, Michiels S, Minhas FUA, Mittal S, Moore DA, Mushtaq S, Nighat H, Papathomas T, Penault-Llorca F, Perera RD, Pinard CJ, Pinto-Cardenas JC, Pruneri G, Pusztai L, Rahman A, Rajpoot NM, Rapoport BL, Rau TT, Reis-Filho JS, Ribeiro JM, Rimm D, Roslind A, Vincent-Salomon A, Salto-Tellez M, Saltz J, Sayed S, Scott E, Siziopikou KP, Sotiriou C, Stenzinger A, Sughayer MA, Sur D, Fineberg S, Symmans F, Tanaka S, Taxter T, Tejpar S, Teuwen J, Thompson EA, Tramm T, Tran WT, van der Laak J, van Diest PJ, Verghese GE, Viale G, Vieth M, Wahab N, Walter T, Waumans Y, Wen HY, Yang W, Yuan Y, Zin RM, Adams S, Bartlett J, Loibl S, Denkert C, Savas P, Loi S, Salgado R, Specht Stovgaard E. Pitfalls in machine learning-based assessment of tumor-infiltrating lymphocytes in breast cancer: A report of the International Immuno-Oncology Biomarker Working Group on Breast Cancer. *J Pathol*. 2023 Aug;260(5):498-513. doi: 10.1002/path.6155. Epub 2023 Aug 23. Review. PubMed PMID: 37608772; PubMed Central PMCID: PMC10518802.
 8. Page DB, Broeckx G, Jahangir CA, Verbandt S, Gupta RR, Thagaard J, Khirroya R, Kos Z, Abduljabbar K, Acosta Haab G, Acs B, Akturk G, Almeida JS, Alvarado-Cabrero I,

- Azmoudeh-Ardalan F, Badve S, Baharun NB, Bellolio ER, Bheemaraju V, Blenman KR, Botinelly Mendonça Fujimoto L, Bouchmaa N, Burgues O, Cheang MCU, Ciompi F, Cooper LA, Coosemans A, Corredor G, Dantas Portela FL, Deman F, Demaria S, Dudgeon SN, Elghazawy M, Ely S, Fernandez-Martín C, Fineberg S, Fox SB, Gallagher WM, Giltane JM, Gnjatic S, Gonzalez-Ericsson PI, Grigoriadis A, Halama N, Hanna MG, Harbhajanka A, Hardas A, Hart SN, Hartman J, **Hewitt S**, Hida AI, Horlings HM, Husain Z, Hytopoulos E, Irshad S, Janssen EA, Kahila M, Kataoka TR, Kawaguchi K, Kharidehal D, Khramtsov AI, Kiraz U, Kirtani P, Kodach LL, Korski K, Kovács A, Laenkholm AV, Lang-Schwarz C, Larsimont D, Lennerz JK, Lerousseau M, Li X, Ly A, Madabhushi A, Maley SK, Manur Narasimhamurthy V, Marks DK, McDonald ES, Mehrotra R, Michiels S, Minhas FUA, Mittal S, Moore DA, Mushtaq S, Nighat H, Papathomas T, Penault-Llorca F, Perera RD, Pinard CJ, Pinto-Cardenas JC, Pruneri G, Pusztai L, Rahman A, Rajpoot NM, Rapoport BL, Rau TT, Reis-Filho JS, Ribeiro JM, Rimm D, Vincent-Salomon A, Salto-Tellez M, Saltz J, Sayed S, Siziopikou KP, Sotiriou C, Stenzinger A, Sughayer MA, Sur D, Symmans F, Tanaka S, Taxter T, Tejpar S, Teuwen J, Thompson EA, Tramm T, Tran WT, van der Laak J, van Diest PJ, Verghese GE, Viale G, Vieth M, Wahab N, Walter T, Waumans Y, Wen HY, Yang W, Yuan Y, Adams S, Bartlett JMS, Loibl S, Denkert C, Savas P, Loi S, Salgado R, Specht Stovgaard E. Spatial analyses of immune cell infiltration in cancer: current methods and future directions: A report of the International Immuno-Oncology Biomarker Working Group on Breast Cancer. *J Pathol.* 2023 Aug;260(5):514-532. doi: 10.1002/path.6165. Epub 2023 Aug 23. Review. PubMed PMID: 37608771.
9. Platt AP, Bradley BT, Nasir N, Stein SR, Ramelli SC, Ramos-Benitez MJ, Dickey JM, Purcell M, Singireddy S, Hays N, Wu J, Raja K, Curto R, Salipante SJ, Chisholm C, Carnes S, Marshall DA, Cookson BT, Vannella KM, Madathil RJ, Soherwardi S, McCurdy MT, Saharia KK, Rabin J, Nih Covid-Autopsy Consortium, Grazioli A, Kleiner DE, **Hewitt SM**, Lieberman JA, Chertow DS. Pulmonary Co-Infections Detected Premortem Underestimate Postmortem Findings in a COVID-19 Autopsy Case Series. *Pathogens.* 2023 Jul 12;12(7). doi: 10.3390/pathogens12070932. PubMed PMID: 37513779; PubMed Central PMCID: PMC10383307.
 10. Barth KE, Spottiswoode N, Hurabielle C, Subbaraj L, Calfee CS, Matthay MA, French S, Connolly A, **Hewitt SM**, Vannella KM, Barnett C, Langelier CR, Patterson S. Clinical and biological heterogeneity of multisystem inflammatory syndrome in adults following SARS-CoV-2 infection: a case series. *Front Med (Lausanne).* 2023;10:1187420. doi: 10.3389/fmed.2023.1187420. eCollection 2023. PubMed PMID: 37484839; PubMed Central PMCID: PMC10357379.
 11. Budhu A, Pehrsson EC, He A, Goyal L, Kelley RK, Dang H, Xie C, Monge C, Tandon M, Ma L, Revsine M, Kuhlman L, Zhang K, Baiev I, Lamm R, Patel K, Kleiner DE, **Hewitt SM**, Tran B, Shetty J, Wu X, Zhao Y, Shen TW, Choudhari S, Kriga Y, Ylaya K, Warner AC, Edmondson EF, Forgues M, Greten TF, Wang XW. Tumor biology and immune infiltration define primary liver cancer subsets linked to overall survival after immunotherapy. *Cell Rep Med.* 2023 Jun 20;4(6):101052. doi: 10.1016/j.xcrm.2023.101052. Epub 2023 May 23. PubMed PMID: 37224815; PubMed Central PMCID: PMC10313915.

12. Cheng RYS, Ridnour LA, Wink AL, Gonzalez AL, Femino EL, Rittscher H, Somasundaram V, Heinz WF, Coutinho L, Rangel MC, Edmondson EF, Butcher D, Kinders RJ, Li X, Wong STC, McVicar DW, Anderson SK, Pore M, **Hewitt SM**, Billiar TR, Glynn SA, Chang JC, Lockett SJ, Ambs S, Wink DA. Interferon-gamma is quintessential for NOS2 and COX2 expression in ER(-) breast tumors that lead to poor outcome. *Cell Death Dis.* 2023 May 11;14(5):319. doi: 10.1038/s41419-023-05834-9. PubMed PMID: 37169743; PubMed Central PMCID: PMC10175544.
13. Whiteaker JR, Zhao L, Schoenherr RM, Huang D, Lundeen RA, Voytovich U, Kennedy JJ, Ivey RG, Lin C, Murillo OD, Lorentzen TD, Colantonio S, Caceres TW, Roberts RR, Knotts JG, Reading JJ, Perry CD, Richardson CW, Garcia-Buntley SS, Bocik W, **Hewitt SM**, Chowdhury S, Vandermeer J, Smith SD, Gopal AK, Ramchurren N, Fling SP, Wang P, Paulovich AG. A multiplexed assay for quantifying immunomodulatory proteins supports correlative studies in immunotherapy clinical trials. *Front Oncol.* 2023;13:1168710. doi: 10.3389/fonc.2023.1168710. eCollection 2023. PubMed PMID: 37205196; PubMed Central PMCID: PMC10185886.
14. Abubakar M, Ahearn TU, Duggan MA, Lawrence S, Adjei E, Clegg-Lampsey JN, Yarney J, Wiafe-Addai B, Awuah B, Wiafe S, Nyarko K, Aitpillah F, Ansong D, **Hewitt SM**, Brinton LA, Figueroa JD, Garcia-Closas M, Edusei L, Titiloye N. Associations of breast cancer etiologic factors with stromal microenvironment of primary invasive breast cancers in the Ghana Breast Health Study. *Res Sq.* 2023 Apr 14;. doi: 10.21203/rs.3.rs-2791342/v1. PubMed PMID: 37090574; PubMed Central PMCID: PMC10120782.
15. Pongor LS, Schultz CW, Rinaldi L, Wangsa D, Redon CE, Takahashi N, Fialkoff G, Desai P, Zhang Y, Burkett S, Hermoni N, Vilc N, Gutin J, Gergely R, Zhao Y, Nichols S, Vilimas R, Sciuto L, Graham C, Caravaca JM, Turan S, Tsai-Wei S, Rajapakse VN, Kumar R, Upadhyay D, Kumar S, Kim YS, Roper N, Tran B, **Hewitt SM**, Kleiner DE, Aladjem MI, Friedman N, Hager GL, Pommier Y, Ried T, Thomas A. Extrachromosomal DNA Amplification Contributes to Small Cell Lung Cancer Heterogeneity and Is Associated with Worse Outcomes. *Cancer Discov.* 2023 Apr 3;13(4):928-949. doi: 10.1158/2159-8290.CD-22-0796. PubMed PMID: 36715552; PubMed Central PMCID: PMC10073312.
16. Li D, Miermont AM, Sable R, Quadri HS, Mathews Griner LA, Martin SE, Odzorig T, De S, Ferrer M, Powers AS, **Hewitt SM**, Rudloff U. Scaffolding Protein Connector Enhancer of Kinase Suppressor of Ras 1 (CNKSR1) Regulates MAPK Inhibition Responsiveness in Pancreas Cancer via Crosstalk with AKT Signaling. *Mol Cancer Res.* 2023 Apr 1;21(4):316-331. doi: 10.1158/1541-7786.MCR-21-1036. PubMed PMID: 36790955; PubMed Central PMCID: PMC10068447.
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18. de Jesus AA, Chen G, Yang D, Brdicka T, Ruth NM, Bennin D, Cebecauerova D, Malcova H, Freeman H, Martin N, Svojgr K, Passo MH, Bhuyan F, Alehashemi S,

- Rastegar AT, Uss K, Kardava L, Marrero B, Duric I, Omoyinmi E, Peldova P, Lee CR, Kleiner DE, Hadigan CM, **Hewitt SM**, Pittaluga S, Carmona-Rivera C, Calvo KR, Shah N, Balascakova M, Fink DL, Kotalova R, Parackova Z, Peterkova L, Kuzilkova D, Campr V, Sramkova L, Biancotto A, Brooks SR, Manes C, Meffre E, Harper RL, Kuehn H, Kaplan MJ, Brogan P, Rosenzweig SD, Merchant M, Deng Z, Huttenlocher A, Moir SL, Kuhns DB, Boehm M, Skvarova Kramarzova K, Goldbach-Mansky R. Constitutively active Lyn kinase causes a cutaneous small vessel vasculitis and liver fibrosis syndrome. *Nat Commun.* 2023 Mar 17;14(1):1502. doi: 10.1038/s41467-023-36941-y. PubMed PMID: 36932076; PubMed Central PMCID: PMC10022554.
19. Chung JY, Kim K, Ylaya K, Walker-Bawa KE, Perry C, Star RA, **Hewitt SM**. The Application of Guanidinium to Improve Biomolecule Quality in Fixed, Paraffin-embedded Tissue. *J Histochem Cytochem.* 2023 Feb;71(2):87-101. doi: 10.1369/00221554231159451. Epub 2023 Mar 4. PubMed PMID: 36869703; PubMed Central PMCID: PMC10088100.
20. Monge C, Xie C, Myojin Y, Coffman K, Hrones DM, Wang S, Hernandez JM, Wood BJ, Levy EB, Juburi I, **Hewitt SM**, Kleiner DE, Steinberg SM, Figg WD, Redd B, Homan P, Cam M, Ruf B, Duffy AG, Greten TF. Phase I/II study of PexaVec in combination with immune checkpoint inhibition in refractory metastatic colorectal cancer. *J Immunother Cancer.* 2023 Feb;11(2). doi: 10.1136/jitc-2022-005640. PubMed PMID: 36754451; PubMed Central PMCID: PMC9923269.
21. Stein SR, Ramelli SC, Grazioli A, Chung JY, Singh M, Yinda CK, Winkler CW, Sun J, Dickey JM, Ylaya K, Ko SH, Platt AP, Burbelo PD, Quezado M, Pittaluga S, Purcell M, Munster VJ, Belinky F, Ramos-Benitez MJ, Boritz EA, Lach IA, Herr DL, Rabin J, Saharia KK, Madathil RJ, Tabatabai A, Soherwardi S, McCurdy MT, Peterson KE, Cohen JI, de Wit E, Vannella KM, **Hewitt SM**, Kleiner DE, Chertow DS. SARS-CoV-2 infection and persistence in the human body and brain at autopsy. *Nature.* 2022 Dec;612(7941):758-763. doi: 10.1038/s41586-022-05542-y. Epub 2022 Dec 14. PubMed PMID: 36517603; PubMed Central PMCID: PMC9749650.
22. Ma L, Heinrich S, Wang L, Keggenhoff FL, Khatib S, Forgues M, Kelly M, **Hewitt SM**, Saif A, Hernandez JM, Mabry D, Kloeckner R, Greten TF, Chaisaingmongkol J, Ruchirawat M, Marquardt JU, Wang XW. Multiregional single-cell dissection of tumor and immune cells reveals stable lock-and-key features in liver cancer. *Nat Commun.* 2022 Dec 7;13(1):7533. doi: 10.1038/s41467-022-35291-5. PubMed PMID: 36476645; PubMed Central PMCID: PMC9729309.
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26. McNulty MT, Fermin D, Eichinger F, Jang D, Kretzler M, Burt NP, Pollak MR, Flannick J, Weins A, Friedman DJ, Nephrotic Syndrome Study Network (NEPTUNE), Sampson MG. A glomerular transcriptomic landscape of apolipoprotein L1 in Black patients with focal segmental glomerulosclerosis. *Kidney Int.* 2022 Jul;102(1):136-148. doi: 10.1016/j.kint.2021.10.041. Epub 2021 Dec 18. PubMed PMID: 34929253; PubMed Central PMCID: PMC9206042.
27. Hodgins JB, Mariani LH, Zee J, Liu Q, Smith AR, Eddy S, Hartman J, Hamidi H, Gaut JP, Palmer MB, Nast CC, Chang A, **Hewitt S**, Gillespie BW, Kretzler M, Holzman LB, Barisoni L. Quantification of Glomerular Structural Lesions: Associations With Clinical Outcomes and Transcriptomic Profiles in Nephrotic Syndrome. *Am J Kidney Dis.* 2022 Jun;79(6):807-819.e1. doi: 10.1053/j.ajkd.2021.10.004. Epub 2021 Dec 3. PubMed PMID: 34864148.
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Books & Chapters in Books

1. Chung J.-Y., **Hewitt S.M.** Well-based reverse-phase protein array of formalin-fixed paraffin-embedded tissue. (2015) *Western Blotting: Methods and Protocols*. :,129. 10.1007/978-1-4939-2694-7_17
2. Wilkerson M.L., **Hewitt S.M.** Tissue microarray. (2015) *Handbook of Practical Immunohistochemistry: Frequently Asked Questions*. :,105. 10.1007/978-1-4939-1578-1_10
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13. McDonnell TJ, **Hewitt SM**, and Saunders GF. In Apoptosis and Cancer. Cell Death Regulation in the Kidney and in Renal Neoplasms. Martin, S.J. (ed.) R.G. Landes Co., Austin, Texas, 1997.

Editorials

1. **Hewitt SM.** AI Is Just Another Tool. J Histochem Cytochem. 2023 Oct;71(10):527-528. doi: 10.1369/00221554231204683. Epub 2023 Sep 23. PubMed PMID: 37740707; PubMed Central PMCID: PMC10546981.
2. **Hewitt SM.** Defining a (Cancer Stem Cell) Niche. J Histochem Cytochem. 2021 Dec;69(12):747. doi: 10.1369/00221554211061358. PubMed PMID: 34845926; PubMed Central PMCID: PMC8647631.
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4. **Hewitt, S.M.** The Challenges of Optimizing Biomarkers to Guide Clinical Decision Making (2020) Journal of the National Cancer Institute, 112 (11), pp. 1079-1080.
5. **Hewitt, S.M.,** Star, R.A. Enlightening kidney pathophysiology (2019) Nature materials, 18 (10), pp. 1034-1035.
6. **Hewitt SM.:** The Impact Factor Is a 20th-Century Relic in an Electronic Journal World of Instant Citation Counts. J Histochem Cytochem. 65(7):387-388, 2017.
7. **Hewitt SM.:** Reproducibility: It Is Just Good Science. J Histochem Cytochem. 64(4):223, 2016.
8. **Hewitt SM.:** Time Advances, People and Language Change, but the Fundamentals Remain the Same. J Histochem Cytochem. 64(1):5-6, 2016.
9. **Hewitt S.M.** The evolution of pre-analytic factors in Anatomic Pathology. (2015) Recent Results in Cancer Research. 199:.,27. 10.1007/978-3-319-13957-9_3
10. Baskin DG, **Hewitt SM.:** Improving the state of the science of immunohistochemistry: the Histochemical Society's standards of practice. J Histochem Cytochem. 62(10):691-2, 2014.

PATENTS

Patent applications

Device for Storing and Transporting Tissue Specimens, **Hewitt SM**, Star RA, Hanson JC, Kojima H, Bandle R, Filie A., Provisional US Patent App 62/490,415, April 26, 2017

Patents awarded

Parallel Measurements of Multiple RNA, Proteins And Antibody Binding Using CryoArray. Miyaji T, **Hewitt SM**, Liotta LA, Star RA. US Patent 6,951,761, October 4, 2005

Method And Kits For Proteomic Analysis Identification, Knezevic V, Emmert-Buck MR, Baibakaova G, Hartmann, D-P, **Hewitt SM**, Capre DM, Gardner K. US Patent 6,969,615, November 29, 2005, PCT 2002243236, November 20, 2008

Manual Template Device For Construction Of Tissue Microarray, **Hewitt SM**. US Patent 7,854,899, December 21, 2010

Ratio Based Biomarker Of Survival Utilizing PTEN And Phospho-AKT, **Hewitt SM**, Chung J-Y

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Use Of Argon As A Tissue Fixation Preservative, Rasanayagam V, Joshi S, Sundaram M, **Hewitt SM**, Chung J-Y, US Patent 9,714,409

Ratio Based Biomarkers and Methods of Use Thereof, **Hewitt SM**, Chung J-Y. US Patent 11,237,169 B2 February 1, 2022

Fixatives and Methods of Use, **Hewitt SM**, Chung J-Y, Perry CD, Star RA. US Patent 11,212,772 B2, April 26, 2022

Module for Freezing and Storage of Frozen Tissue, **Hewitt SM**, Hanson JC, Ylaya KR, Oshetshi M, US Patent 11,802, 821 B2, October 31, 2023

INVITED SPEAKER

“Making Information Relevant” Digital Pathology Transformation in the Federal Ecosystem, Reston VA, May 2023

Georgetown University Medical Center, Dean’s Seminar Series, “The Intersection of the Role of Pathology In the COVID-19 Pandemic”, Washington, D.C., May 2022

NIAID Grand Rounds , Daniel Chertow/Stephen Hewitt Co-Presenters, Postmortem evaluation of fatal COVID-19: conventional and molecular tools clarify pathogenesis, March 2021

Gregory Derringer Pathology Grand Rounds, Indiana University Medical School, Indianapolis Indiana, November 2019

International Society for Biological and Environmental Repositories (ISBER) Regional Meeting, Minneapolis, November 2019

“Immunohistochemistry – Just do it right” – American Association of Anatomist, Experimental Biology, Orlando, April 2019

Qatar International Biobanking Meeting, Doha Qatar, March 2019

Digital Pathology, Molecular Med TRI-CON, San Francisco, March 2019

Biospecimen Research Symposium, International Society for Biological and Environmental Repositories, Berlin, February 2019

Digital Pathology: Future Practice Pixels and Bytes (pre-meeting workshop), American College of Veterinary Pathologist, Washington DC, November 2018

American Society for Matrix Biology, Las Vegas, October 2018

Pathology Grand Rounds, Johns Hopkins Hospital, July 2018

Pathology Informatics Summit 2018, Association for Pathology Informatics, Pittsburgh, May 2018

Innovation and Biomarkers in Cancer Drug Development, EORTC, NCI, EMA, AARC, Brussels Belgium, September 2016

CTEP 2015 Fall Early Drug Development Meeting, National Cancer Institute Cancer Therapy Evaluation Program, Bethesda October 2015

Pathologic Society / British Division of the International Academy of Pathology Biannual Meeting, Dublin, Ireland, June 2015

ASIP/ ACVP Annual Meeting, Atlanta, November 2014

Glom-NExT Inaugural Symposium, Brigham & Woman's Hospital, Boston, November 2014

Biologic Stain Commission, Washington DC, June 2014

Pathology Informatics Summit 2014, Association for Pathology Informatics, Pittsburgh, May 2014

Digital Pathology, Molecular Medicine Tri-Conference, Cambridge Healthtech Institute, San Francisco, February 2014

Gregory Derringer Pathology Grand Rounds, Indiana University Medical School, Indianapolis Indiana, December 2013

Sporadic Melanoma in Dogs as a Preclinical Model for Human Melanoma Workshop, Society for Melanoma Research, Philadelphia, November 2013

Design of Biomarker Driven Phase II Cancer Treatment Clinical Trials Workshop, Investigational Drug Steering Committee, Biomarker and Clinical Trial Design Task Force, National Cancer Institute, Bethesda September 2013

Biologic Stain Commission, Washington DC, June 2013

Summit on Color in Medical Imaging, International Color Consortium, Silver Spring MD, May 2013

Pre-Analytic of Pathological Specimens, Deutsche Gesellschaft fur Pathologie, Berlin, March, 2013

Pathology Informatics, United States Canadian Academy of Pathology, Baltimore, 2013

Pathology Informatics, Association for Pathology Informatics, Chicago, October, 2012

Tissue Diagnostics, Cambridge Healthtech Institute, Philadelphia, June 2012

Tissue Microarray Course, BioSkills, Milan, Italy, April 2012

Quantitative Morphology in Kidney Research, Bethesda, February 2012

Pathology Visions, San Diego CA, November 2011

Pathology Informatics, Association for Pathology Informatics Pittsburgh PA, October 2011

Microarray World Congress, Select Biosciences, San Francisco, CA, September 2011

CryoBiology 2011, Society for Cryobiology, Oregon, July 2011

Medical Technology Learning Institute, 4th Annual FDA/MTLI Medical Device and IVD Statistics Workshop, National Harbor, MD, April 2011

SPIE Medical Imaging, Orlando, January 2011

Pathology Grand Rounds, New York University College of Medicine, December 2010

Biobanking, Cambridge Healthtech Institute, Providence RI, December 2010

Interactive Tissue Microarray Course, BioSkills, Milan, Italy, November 2010

Pathology Informatics, Association for Pathology Informatics, Boston MA, September 2010

Irish Association of Cancer Research, Galway Ireland, March 2010

Pathological Society, London, England, January 2010

Biobanking, CHI, Philadelphia, November 2009

NCI Clinical Proteomics Technologies for Cancer 3rd Annual Meeting, Bethesda, MD October 2009

Microarray World Congress, Select Biosciences, San Francisco, CA, August 2009

VII Congress of the Mexican Society of Immunohistochemistry and Applied Molecular Pathology, Monterrey, Nuevo Leon, Mexico, July 2009

Society of Toxicologic Pathology, Annual Meeting, Washington DC, June 2009

Cancer Proteomics, European Molecular Biology Organization, Conway Institute, University College Dublin, Dublin, Ireland, June 2009

Peptalk, CHI, San Diego, January 2008

Pharmaceutical R&D Productivity Forum, San Diego, October 2008

Keck Annual Research Conference, Gulf Coast Consortia, Houston, October 2008

European Molecular Biology Organization, Tissue Microarray Workshop, Conway Institute, University College Dublin, Dublin, Ireland, June 2008

Swedish Society of Pathology, Annual Meeting, Stockholm Sweden, May 2008

Translational Medicine, Molecular Medicine Tri-Conference, Cambridge Healthtech Institute, San Francisco, March 2008

From Bench to the Bedside: Novel Analytical Techniques that Will Impact Healthcare in the 21st Century, Symposium, Pittcon, New Orleans, March 2008

Quality Assurance in Biobanking, Confederation of Cancer Biobanks, National Cancer Research Institute, London England January 2008

Indiana University Center for Environmental Health Symposium, Indianapolis, November 2007

European Molecular Biology Organization, Tissue Microarray Workshop, Conway Institute, University College Dublin, Dublin, Ireland, June 2007

Tissue Banking and Sample Preparation Workshop, American Society for Investigative Pathology, Experimental Biology 2007 Annual Meeting, April 2007

11th Annual Genetics Symposium, Program in Human and Molecular Genetics, University of Texas Graduates School of Biomedical Sciences, April 2007

Second ESH-EBMT Euroconference on Biobanking, European School of Hematology, Portugal, March 2007

New Technologies in Biospecimen Handling, Australian Biospecimens Network, Australian Health and Medical Research Congress, Melbourne Australia, December 2006

Tissue Microarrays in Translational Medicine, The Children's Hospital at Westmead, Sydney Australia, December 2006

Workshop On Tissue Microarrays in Translational Medicine, BioRep, Milan, Italy October 2006

Workshop on Tissue Banks and Downstream Applications, Premio Sapio per la Ricerca Italiana 2006, Rome Italy, October 2006

Microarrays in Medicine, Getting Optimized Targets Summit. Cambridge Healthtech Institute, Boston, April 2006(Organizing Committee)

Tissue Microarray Symposium, Conway Institute, University College Dublin, Dublin, Ireland, March 2006

Molecular Diagnostics, Cambridge Healthtech Institute, San Francisco, February 2006

Protein Arrays, Cambridge Healthtech Institute, San Diego, January 2006 (Organizing Committee)

International Network for Cancer Treatment and Research (INCTR), 2005 Annual Meeting, Chennai, India, December 2005

George O'Brien Lecture Series, Children's Hospital/ Harvard Urological Diseases Research Center, Harvard University, November 2005

New Methods In Tissue Profiling, NIH Research Festival, October 2005

Microarrays in Transcriptional Profiling FDA/Johns Hopkins/RxPharma Workshop, Rockville MD, July 2005

Microarrays in Medicine, Cambridge Healthtech Institute, Boston, May 2005

Lymphoma Workshop and Gene Expression Profiling Minisymposium, Hematology Association of Ireland and St. James Hospital, Dublin Ireland, February 2005

Protein Arrays, Cambridge Healthtech Institute, San Diego, January 2005

12th International Congress of Histochemistry and Cytochemistry, La Jolla, July 2004

SPEC 2004 *Shedding New Light on Disease: Optical Diagnosis for the New Millennium*, Newark, June 2004

II Intercontinental Congress of Pathology, European Society of Pathology Latin American Society of Pathology, and Brazilian Society of Pathology, Rio de Janeiro and Iguaçu Falls, Brazil, June 2004

Tissue Microarray Workshop, University of Lund, Malmö, Sweden, May 2004

Topics in Molecular Medicine, University of Texas Health Science Center, MD/PhD Program, April 2004

Focus On Microscopy 2004, Philadelphia, April 2004

Thirteenth International Symposium, Hiroshima Cancer Seminar Series, Hiroshima, October 2003

Symposium III Novel Molecular Targets in Cancer Therapy, International Society for Translational Research, Buenos Aires, October 2003

Bioinformatics and Statistical Genomics Seminar Series, Department of Statistics, Purdue University, September 2003

Emerging Tools for Accurate, Standardized Molecular Cellular Diagnostics, Industry Workshop, College of American Pathologist, September 2003

National Translational Cancer Research Network, Oxford, July 2003

Creating the GRID-enabled Bioinformatics Hub At The Heart Of the New NCRI National Cancer Tissue Resource, National Translational Cancer Research Network, London, January 2003

Winter Meeting, Society for Basic Urologic Research, Tucson Arizona, December 2002

Annual Meeting, Association for Pathology Informatics, Pittsburgh, October 200

BioArray Europe 2002, Cambridge England, September 2002

Chinese Academy of Medical Sciences and Peking Union Medical College, September 2002

Challenges of Today's Molecular Pathology, Sponsored by the National Cancer Research Institute and the National Translational Cancer Research Network of Great Britain, June 2002

Proteomic Approaches to Cell Signal Profiling of Pediatric Cancers, Sponsored by *Cancer Therapy Evaluation Program, NCI and Children's Oncology Group*, April 2002

Environmental Health And Medicine Seminar Series, National Institute For Environmental Heal Sciences/ University of Texas Medical Branch Sealy Center, March 2002.

Genomics and Proteomics of Kidney and Urologic Diseases, Sponsored By National Institute Of Diabetes and Digestive and Kidney Diseases, July 2001.

PARTICIPANT/ADVISOR

2021-2023 Member, Executive Committee, Trans-NIH Post-Acute Sequela of COVID (PASC) Taskforce

Autopsy Consortium (NIH Special Program Lead)

2020-present, Member, Pathology Working Group, Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Network

2018-present Consultant, Human BioMolecular Atlas Program (HuMAP) National Institutes of Health, NIH Common Fund

2018-present Scientific and Technical Advisory Board, Cancer Research Data Commons (CRDC), National Cancer Institute

Steering Committee, Drug Development Collaborative, Center for Cancer Research, National Cancer Institute, 2017-present

Consultant, Hematology and Pathology Devices Panel, Center for Devices and Radiological Health, Food and Drug Administration, 2009-present

Journal of Histochemistry and Cytochemistry

Editor-in-Chief (outside activity) 2016-present

Editorial Board, *Journal of Histochemistry & Cytochemistry*, 2011-2015

FASEB Journal

Associate Editor, 2018-present

Editorial Board, (Histochemical Society Representative) 2015-2018

Editorial Board, *Diagnostic Molecular Pathology*, 2005-2013

Editorial Board, *Biopreservation & Biobanking*, 2010-present

Monitoring Editor, *Journal of Translational Medicine*, 2010-present

Associate Editor, *Journal of Analytical Cellular Pathology*, 2014

Editorial Board, *Applied Immunohistochemistry & Molecular Morphology*, 2014- present

Participant, Cognition and Medical Imaging Perception Think Tank, National Cancer Institute, September 2019

Implementation Team Member, Cancer Moonshot Initiative, Generation of a Human Tumor Atlas, National Cancer Institute, 2017

Provocative Question Review Team Member, National Cancer Institute, 2017

Faculty, Immunohistochemistry and Microscopy, Special Topics Courses, Marine Biologic Laboratories, Woods Hole, MA, 2012-2017

Clinical and Laboratory Standards Institute

Co-Chairman, Subcommittee on Quality Assurance for Immunohistochemical Procedures, 2005-2010

Member, Consensus Committee on Immunology and Ligand Assay, 2011-2015

The Histochemical Society,

Secretary/Treasurer, 2014-2015

Councilor, 2009-2014

Association for Pathology Informatics

Publications Committee Chair, 2017-present

Program Chair, 2014

Program Chair Elect, 2013

Research Chair, 2011-2013

Ad-Hoc Review, ARPA-H, July 2023

Ad-Hoc Reviewer, U54 DK-18-029 " O'Brien Urologic Cooperative Research Centers Program" July 2018

Advisory Panel, Quantitative Image Analysis Workgroup, College of American Pathologist, August 2015 - 2018

Participant, National Cancer Institute, Division for Cancer Treatment and Diagnosis, Cancer Immunotherapy Workshop, January 2016

Ad-hoc Reviewer, R24 PAR-13-305 "Collaborative Interdisciplinary Team Science in NIDDK Research Areas", March 2014

Ad-Hoc Reviewer, U01 RFA-DK-12-025 " Expansion of the MAPP Research Network", February 2014

Reviewer, Special Emphasis Panel, R01 RFA-DK-12-025 "Urologic Chronic Pain Syndrome", July 2013

Technical Review Group, Office of Science and Engineering, Center for Devices and Radiological Health, Food and Drug Administration, 2012

External Advisory Committee, NIDDK CKDBioCon Consortium 2011-2021

External Advisory Committee, NIDDK Multi-disciplinary Approach to the Study of Chronic Pelvic Pain (MAPP) Research Network 2009-present

External Advisory Committee, NIDDK Assessment, Serial Evaluation, and Subsequent Sequelae in Acute Kidney Injury (ASSESS AKI) Consortium 2009-present

Internal Review Committee, Clinical Assay Development Program, Division of Cancer Treatment and Diagnosis, National Cancer Institute 2012-2014

Ad Hoc Reviewer, NIDDK *CKD Biomarker Discovery and Validation Consortium* , July 2009.

Ad Hoc Reviewer, NIDDK *Multi-disciplinary Approach to the Study of Chronic Pelvic*

Pain (MAPP) Research Network, March 2008.

External Advisory Committee, NIDDK sponsored RAND Interstitial Cystitis Epidemiology (RICE) Project, 2007

Participant, Strategic Action Plan for Melanoma Research, NCI, February 2007

Scientific Reviewer, Department of Defense, Congressionally Directed Medical Research Program, *Breast Cancer Research Program Era of Hope Scholars Panel*, 2006.

Ad Hoc Reviewer, NIH National Center for Research Resources *Shared Instrumentation Grant* Study Section 2004-5

Participant, University of Michigan School of Public Health Global Health Program, Reducing the Burden of Cancer in Arabs and Arab Americans, Dearborn Michigan, May 2006

Participant, NCI Biorepository Coordinating Committee Workshop, July 2005

Participant, A Critical Review of Melanoma – Genetic Approaches With Therapeutic Promise, Banbury Center, Cold Spring Harbor Laboratory, March 2005

Ad Hoc Advisor, Tissue Access Working Group, National Biospecimen Network, National Dialogue on Cancer, 2003.

Advisor, National Translational Cancer Research Network (*ntrac*), United Kingdom 2002 - 2005

External Advisory Committee, NIDDK sponsored MTOPS Prostate Sample Analysis (mPSA) Consortium, 2002 - 2006

NIDDK Bladder Researcher Progress Review Group, July 2001

GRADUATE STUDENT COMMITTEES

Sara Strömberg, May 2008
Opponent, Thesis Defense, Uppsala University, Uppsala Sweden

Dan Fernandez, May 2004
Chairman, Thesis Defense Committee, University of South Florida Medical School, Tampa Florida

PROFESSIONAL MEMBERSHIPS

American Association for Cancer Research

College of American Pathologist

American Society for Investigative Pathology

Histochemical Society

Association for Pathology Informatics

International Society for Biological and Environmental Repositories

CONSULTANT

Board of Scientific Advisors, CytoGenix, Inc., Houston, Texas, 1997-2004

AWARDS AND OTHER ACTIVITIES

Health and Human Services Secretary's Award for Distinguished Service, NCATS National COVID Cohort Collaborative Team, 2023

NIDDK Director's Award – Scientific as a member of the "NIH Atlas of Molecular Atlases Group". 2023

NCI Director's Award, NCI-COMPASS Program of the Laboratory of Pathology, NCI, for Clinical Science, 2022

NCI Director's Award, NCI HALO Project Team, for Data Science, 2022

NIH Director's Award National Heart, Lung and Blood Institute NHLBI Researching COVID to Enhance Recover (RECOVER) Team, 2022

National Heart, Lung and Blood Institute Division of Intramural Research Orloff Science Award, "Role of Intracellular Complement in Inflammatory Human Disease, Claudia Kemper, Ben Afzali, Majid Kazemian, Michail Lionakis, Jigarkumar Desai, **Stephen Hewitt** and Tilo Freiwald, 2022

NIH Director's Award - member of the NCATS National COVID Cohort Collaborative (N3C) Team, nominated by the National Center for Advancing Translational Sciences, "In recognition of the exceptional vision, planning, development, and establishment of the National Cohort Collaborative (N3C) and the NCATS N3C Data Enclave", 2021

NIH Director's Award member of the Trans-NIH Post-Acute Sequelae of SARS-CoV-2 Initiative Leadership Team, nominated by the National Institute of Neurological Disorders and Stroke, "For exemplary leadership in launching and developing the Post-Acute Sequelae of SARS-CoV-2 (PASC) Initiative", 2021

FDA Alumni Association Innovators Award - Whole-slide imaging working group chairs Brandon D Gallas, Marios A Gavrielides, **Stephen M. Hewitt**, and Darren Treanor,

September 2018

FDA Group Recognition Award – Whole Slide Imaging Working Group, Brandon D Gallas, Marios A Gavrielides, **Stephen M. Hewitt**, and Darren Treanor, August 2017

National Heart, Lung and Blood Institute, Division of Intramural Research Orloff Science Award. “Myocardial Microstructure Dynamics by In-Vivo Diffusion Tensor Cardiac Magnetic Resonance: Preclinical Validation and Clinical Translation in Hypertrophic Cardiomyopathy and Dilated Cardiomyopathy” Sonia Nielles-Vallespin, Andrew Aria, Joni Taylor, Shawn Kozlov, Katherine Lucas, Peter Kellman, Dumitru Mazilu, Christian Combs, Daniela A Malide, **Stephen Hewitt**, Candice Perry, and Kris Ylaya, 2016

Award of Excellence in Technology Transfer, "The Breast Cancer Startup Challenge" Eric Hale, J.D., M.S., M.B.A., Mitchell Ho, Ph.D., Dennis M. Klinman, M.D., Ph.D., Tom Misteli, Ph.D., Nadya I. Tarasova, Stanislaw Kaczmarczyk, Ph.D., **Stephen M. Hewitt, M.D., Ph.D.** Federal Laboratory Consortium for Technology Transfer, Mid-Atlantic Region, 2014

Award of Excellence in Technology Transfer, "A Low-cost Tissue Microarrayer Instrument to Support Improved Cancer Diagnosis" **Hewitt SM**, Hewes J, Franks A, Fenn T, Evans G. Federal Laboratory Consortium for Technology Transfer, Mid-Atlantic Region, 2014

NIH Director's Award. Breast Cancer Start-up Challenge Team - Eric Hale, J.D., M.S., M.B.A., Mitchell Ho, Ph.D., Dennis M. Klinman, M.D., Ph.D., Tom Misteli, Ph.D., Nadya I. Tarasova, Stanislaw J. Kaczmarczyk, Ph.D., **Stephen M. Hewitt, M.D., Ph.D.** 2014

Technology Transfer Awards, CCR, NCI, NIH, 2012 -23

Clinical and Laboratory Standards Institute, service award, 2011

Distinguished Alumni Program in Human and Molecular Genetics, University of Texas Graduates School of Biomedical Sciences, 2007

Senior Visiting Fellow, Department of Clinical Pharmacology, University of Oxford, Oxford, England

Student InterCouncil, University of Texas Health Science Center, Houston
President, 1989-1991 and 1993-1995
Representative, 1994-1996

Student InterCouncil Scholarship, 1995

The University of Texas M.D. Anderson Cancer Center Graduate Student Symposium, Honorable Mention, 1995

Assistant Scout Master, Scout Troop 773, Potomac MD 2021-present

Cub Scout Pack 773, Potomac, MD

Treasurer 2018-present

CubScout Master 2019-2021

Chesapeake and Potomac Greater Swiss Mountain Dog Club

Board Member 2013-2019

Secretary 2019-2021

Delta Phi Club of Maryland

President, 1998-2002, 2004-2007

Treasurer 2002-2004